FIVE-YEAR REVIEW REPORT

MARION (BRAGG) DUMP SITE

GRANT COUNTY
INDIANA

September 2005

Prepared by:
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Region 5
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9/27/05
Date

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List of Acronyms

AOC	Administrative Order on Consent (Consent Decree)
ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CAC	Chronic Aquatic Criteria
COD	Chemical Oxygen Demand
CFR	Code of Federal Regulations
DWEL	Drinking Water Equivalent Level
EPA	United States Environmental Protection Agency
IBI	Index of Biotic Integrity
IDEM	Indiana Department of Environmental Management
ISBH	Indiana State Board of Health
MCL	Maximum Contaminant Level
MW	Monitoring Well
NCP	National Contingency Plan
NPL	National Priorities List
OU	Operable Unit
O&M	Operation and Maintenance
PAH	Polycyclic Aromatic Hydrocarbons
PRP	Potentially Responsible Party
RA	Remedial Action
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study

ROD	Record of Decision
SMCL	Secondary Maximum Contaminant Level
SVOC	Semi-volatile Organic Compound
TAL	Target Analyte List
TCL	Target Compound List
TSS	Total Suspended Solids
VOC	Volatile Organic Compound

FIVE-YEAR REVIEW REPORT
EXECUTIVE SUMMARY
September 2005

MARION BRAGG DUMP SITE

Grant County
Indiana

The completion of the current five-year review confirms that the Marion Bragg Dump Site remains protective of human health and the environment. The remedy selected in the 1987 Marion Bragg Dump (the Site) Record of Decision (ROD) has been implemented under the 1991 Consent Decree entered with the potentially responsible parties (PRPs) including the City of Marion. This is the second five-year review for the Site.

The remedy for the Marion Bragg Dump Site in Grant County, Indiana included isolation and containment followed by soil/establishing vegetative cover, monitoring and maintaining institutional controls. The site achieved construction completion with the signing of the Preliminary Close-Out Report in September 1995.

The assessment of this five-year review found that the remedy was implemented in accordance with the requirements of the ROD.

The remedy is functioning as designed. The immediate threats have been addressed and the remedy remains protective of human health and the environment in the short term. There are no current exposure pathways.

In order for the remedy to be protective in the long-term, follow-up actions need to be taken to ensure that the required institutional controls remain in place and are effective. Operation and maintenance of the containment system has been effective. Hazardous waste remains in place, therefore U.S. EPA is required to conduct a Five-Year Review in another five years, September 2010.

Five-Year Review Summary Form

SITE IDENTIFICATION

Site name *(from WasteLAN)*: Marion Bragg Dump

EPA ID *(from WasteLAN)*: IND980794366

Region: 5	**State:** IN	**City/County:** Grant County

SITE STATUS

NPL status: ☒ Final ☐ Deleted ☐ Other (specify)

Remediation status (choose all that apply): ☐ Under Construction ☒ Operating ☐ Complete

Multiple Ous?* ☒ YES ☐ NO	**Construction completion date:** 9 / 15 / 1995

Has site been put into reuse? ☐ YES ☒ NO

REVIEW STATUS

Lead agency: ☒ EPA ☐ State ☐ Tribe ☐ Other Federal Agency

Author name: David Linnear

Author title: Remedial Project Manager	**Author affiliation:** U.S. EPA, Region 5

Review period:** 07/2005 to 09 / 2005

Date(s) of site inspection: 8/ 25 / 2005

Type of review:

☒ Post-SARA ☐ Pre-SARA ☐ NPL-Removal only
☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead
☐ Regional Discretion)

Review number: ☐1 (first) ☒ 2 (second) ☐ 3 (third) ☐ Other (specify)

Triggering action:

☐ Actual RA On-site Construction at OU # 1 ☐ Actual RA Start at OU# NA
☐ Construction Completion ☒ Previous Five-Year Review Report
☐ Other (specify)

Triggering action date *(from WasteLAN)*: 9 / 27 / 2000

Due date *(five years after triggering action date)*: 9 / 27 / 2005

* ["OU" refers to operable unit.]
** [Review period should correspond to actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issue:

1) Waste remains in place so NCP requires U.S. EPA to conduct Five-Year Review.

2) Need for continual operation and maintenance of containment system.

Recommendations and Follow-up Actions:

1) Conduct third Five-Year review September 2010.

2) Review data gathering component for next Five-Year review for the Marion Bragg Dump Site.

3) Review institutional control investigation report which PRPs are to submit during October 2005, and take follow-up action as needed.

Protectiveness Statement(s):

The remedy is protective of human health and the environment in the short term. There are no current exposure pathways and the remedy appears to be functioning as designed. Containment of the source via capping is achieving the remedial objectives to minimize the migration of contaminants to groundwater and surface water and prevent direct contact with, or ingestion of, contaminants in soils and sediments.

Long-term Protectiveness:

The remaining component of the cleanup is the operation and maintenance of the containment systems. Operation and maintenance of the systems has, on the whole, been effective. The PRPs and U.S. EPA are and will continue to evaluate opportunities for system optimization. However, in order for the remedy to be protective in the long-term, follow-up actions need to be taken to ensure that the required institutional controls are in place. Specifically, the PRPs are performing an institutional controls investigation study, with a report due to EPA during October 2005; this study and report will determine whether institutional controls that have been put into place in the past remain valid and are adequate. EPA will take additional follow-up action, as needed.

Other Comments:

None

U. S. Environmental Protection Agency
Region 5
Five Year Review
Marion Bragg Dump Site
Grant County, Indiana
September 2005

I. Introduction

The United States Environmental Protection Agency (U.S. EPA) Region 5 is conducting a Five-year review of the remedial actions implemented at the Marion Bragg Dump Site in Grant County, near Marion, Indiana. The review was conducted between July 2005 and September 2005 and reviewed data and site conditions during the period 2000 to 2005, since the last review of September 2000. This report documents the results of the five-year review. The purpose of five-year reviews is to determine whether the remedy at a site is protective of human health and the environment. The methods, finding, and conclusions of the review are documented in this five-year review report. In addition, five-year review reports identify issues found during the review, if any, and make recommendations to address them.

This review is required by statute. U. S. EPA must implement five-year reviews consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA 121(c), as amended, which states:

> If a remedial action is selected that results in any hazardous substances, pollutants, or contaminants remaining at the site, the remedial action shall be reviewed no less often than every five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

The NCP part 300.430(f) (4) (ii) of the Code of Federal Regulations (CFR) states:

> If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

This is the second five-year review for the Marion Bragg Dump Site.

II. Site Chronology

Table 1 lists a chronology of events for the Marion Bragg Dump Site.

Event	Date
Initial discovery of Problem	1975
Listed on National Priority List	1983
Remedial Investigation/Feasibility Study	1987
ROD 1 Signature	1987
ROD 2 Signature	1997
Site Visit / Inspection	2000
First Five-Year Review	2000
Site Visit / Inspection	2005
Second Five-Year Review	2005

III. Background

Physical Characteristics

The Marion Bragg Dump Site (the Site) is located just outside the southeastern limits of Marion, Indiana. The dump occupies approximately 45 acres of the 72 acre Site along the bank of the Mississinewa River. The northern end of the Site is within the estimated 100-year flood plain.

The Site is bordered on the north and east by the Mississinewa River; Lugar Creek enters the river on the opposite side about 200 feet north of the southern facility boundary. A cemetery is located along the western border and commercial property lies south of the Site. A residence (vacant) and two asphalt plants, Marion Paving Company and Dobson Construction Company, were located on the southwest corner of the site during the time of the remedial investigation.

Land & Resource Use

Land use to the west and southwest of the Site is commercial and industrial, while to the south, land use is primarily residential. The river borders the north and east. A large (about 15 acres) pond is in the center of the property. This on-site pond has been occasionally used for recreational purposes, such as boating and fishing.

History of Contamination
The Site was used as a sand and gravel quarry from 1935 until approximately 1961. During the period from 1949 through 1970, Radio Corporation of America (RCA) leased and used portions of the Site for industrial refuse disposal. Concurrently, during the period from 1957 to 1975, Bragg Construction leased a separate portion of the Site which it used for disposal of municipal wastes.

Periodic inspections by the Indiana State Board of Health (ISBH) indicated that operations at the dump were continually conducted in an unacceptable manner. ISBH specifically noted the disposal of hazardous or prohibited wastes including acetone, plasticizers, lacquer thinners, and enamels. Drummed wastes were allegedly emptied from the drums and "worked" into the other wastes with a bulldozer. Other typical violations included lack of daily cover, placing wastes in standing water (pond encroachment), and burning refuse.

In 1975, Waste Reduction Systems, a division of Decatur Salvage, Inc., constructed a transfer station on the premises in order to transfer solid wastes to an approved landfill. The transfer station was closed in 1977. In January 1980, ISBH issued a letter stating that the transfer station had been closed in an acceptable manner.

A large pond is located off-site, adjacent to the southern Site boundary. South of the pond, a water-filled gravel pit was allegedly filled with demolition debris.

Initial Response
In 1975 Bragg Construction stopped operating the landfill. The landfill was covered with a sandy/silty material and seeded. The landfill was never formally closed under the auspices of ISBH. In 1982 U.S. EPA and Marion Bragg Dump Site collected sludge samples from the lagoons. Hazardous assessments conducted by U.S. EPA between 1983 and 1986 determined that lagoon sludges posed a potential threat.

In September 1983 the Marion Bragg Dump was placed on the National Priorities List (NPL). A remedial investigation (RI) and a feasibility study (FS) were conducted under the authorization of the U.S. EPA, beginning in 1985. The reports for both were issued in August 1987.

During the remedial action for Operable Unit (OU) 1, Marion Paving moved and the residence was torn down. A large 15 acre pond is in the center of the property. At one time the on-site pond received discharges associated with air pollution control equipment at the Marion Paving Company.

Basis for Taking Action
The decision for "remedial action" was based on the analysis of site risks. The decision relied on legal assurances that contaminated land will not be used in a way that could pose significant risks, and that monitoring would continue indefinitely. Results from previous investigations, activities and sampling showed that the landfill contained elevated VOC and SVOC

concentrations. The selected remedy for the Site was designed to minimize potential exposure to landfill contaminants by human and ecological receptors.

IV. Remedial Actions

Remedial Selection

Following a public meeting and a public comment period on the FS report, U.S. EPA issued a Record of Decision (ROD) on September 30, 1987 for an interim remedial action that would address the surface soils and on-site wastes. In the 1987 ROD, U.S. EPA identified three operable units: OU 1 was the surface soils and the on-site wastes; OU 2 was the groundwater; and OU 3 was the on-site pond. An interim remedy was selected only for OU 1 in the 1987 ROD. Selections of remedies for OU 2 and OU 3 were deferred until additional data concerning the risks associated with the on-site pond and with the discharge of groundwater to the Mississinewa River could be obtained. Doing this permitted U.S. EPA to immediately address the problems associated with possible contact with the contamination in the surface soils and the on-site wastes and with the continual leaching of contamination from these areas into the groundwater. Also, the added data on the groundwater, the river, and the on-site pond that was considered to be necessary in order to properly determine what, if anything, needed to be done regarding these issues could be obtained. The effects of the source control measures being implemented for OU 1 would also be taken into account before remedies for OU 2 and 3 were selected.

In addition to the actions described above, deed restrictions were obtained for the property that constituted the original facility to protect the constructed elements of the remedy and prevent the future use of groundwater from the shallow aquifer on the Site. Also, monitoring of the groundwater, the on-site and the large off-site ponds, and the Mississinewa River have been carried out since the beginning of the on-site work in order to obtain additional data on the contamination in the on-site pond and on the effects of the discharge of the groundwater to the Mississinewa River. Additionally, institutional controls preventing the use of the shallow groundwater under the cemetery west of the Site were obtained by the Generator Defendants of the 1991 Consent Decree following the issuance of the second ROD on September 30, 1997. "No action" was selected in the 1997 ROD for the remedy for OU 2 and OU 3. The additional deed restriction needed for the shallow groundwater under the cemetery property to the west of the Site to prevent the future use of this groundwater since groundwater from the Site may flow under a small part of the cemetery before entering the Mississinewa River. Under the "no action" remedy for OU 2 and OU 3, monitoring of the groundwater, the on-site and large off-site ponds, and the river will continue in accordance with the requirements of the 1991 Consent Decree and the ROD for OU 1.

In August 1987, special notice letters were issued to those persons that US EPA had determined were PRPs. US EPA began negotiations with a number of these PRPs that resulted in a mixed funding settlement contained in a Consent Decree. This Consent Decree was entered in April

1991. In this settlement, six of the PRPs that had been named (the PRP Group) agreed to design and construct the remedy and conduct the investigations and monitoring and the City of Marion (another PRP) agreed to maintain the Site. A second Consent Decree was entered in March 1997 under which five PRPs agreed to pay a portion of the past costs.

Remedial Implementation

The remedial design began in March 1989. During the remedial action (RA) that was performed primarily during 1990 and 1991, Marion Paving Company moved off the Site, and therefore its discharge to the on-site pond was eliminated; the residence located next to Marion Paving was torn down; common fill was placed on the waste disposal area to provide for proper surface water run-off; a compacted clay cap was installed in the waste disposal area to prevent air emissions, to prevent contact with the wastes, and to minimize infiltration of precipitation; the cap was covered with topsoil, which included matting in areas of possible exposure to 100-year-flood waters, and a vegetative layer was established to minimize erosion; rip-rap was installed along part of the river bank to the south to stabilize the bank in order to minimize possible exposure to wastes; a perimeter fence was installed to minimize unauthorized access to the Site; and new monitoring wells were installed on the Site and the old ones were abandoned.

In addition to the actions described above, deed restrictions were obtained for the property that constituted the original facility to protect the constructed elements of the remedy and prevent the future use of groundwater from the shallow aquifer on the Site.

The primary remedial objectives of the remedies that have been selected for the Site are containment of the wastes, prevention of contact with the contaminated surface soils, and monitoring of groundwater and surface water (see Section VII. C. for the groundwater and surface water monitoring locations) to determine if the containment is sufficient to prevent the surface water from being unacceptably affected.

Construction activities associated with the remedial alternative began in July, 1990. It was initially anticipated that construction activities would be conducted over a two-year period. Common fill, seeding, signage and rip-rap installation were completed in September, 1991.

Operations and Maintenance (O&M)

The City of Marion has the responsibility for maintaining the site. The maintenance consists of inspecting the Site, mowing the grass, repairing any erosion damage, and maintaining the fence. This has been handled satisfactorily. During the August 2005 visit, the grass height was satisfactory, no unacceptable erosion gullies were seen, and the fence appeared to be in good condition.

Following the 1997 ROD, there were some reductions in the sampling program for the Site. Some locations were dropped and some parameters in locations that continue to be sampled were

dropped. These changes were made because the parameters that were dropped were not being seen in those locations and it was decided that it was not necessary to continue such an extensive sampling program as had been pursued to provide information for the 1997 ROD. The Site is now being sampled annually. It is to be noted that results for the various parameters fluctuate, so while there may be an appearance of an upward or downward trend, all of the data needs to be reviewed to see if the apparent trend is real.

In the 1997 ROD it was stated, ". . . the monitoring that has been performed since 1990 has not demonstrated any impacts on the water quality of the Mississinewa River. The two substances of primary concern in the groundwater that might adversely affect the river are arsenic and ammonia. Dissolved arsenic has not been detected in the river samples. The MCL and the acute and chronic aquatic criteria for arsenic are all significantly above the detection limit for arsenic. Ammonia has been detected very infrequently at low concentrations, but these detections are not necessarily attributable to the groundwater from the Site since there are sources of ammonia that are due to natural causes. The detection of ammonia in the river during the last four sampling events did result in a slight exceedance of the chronic aquatic criteria but the acute aquatic criteria were not exceeded."

Since the 2000 5 year-review up until now, there have been no detects of ammonia or arsenic in the river in the sampling events. There might have been increases in COD downstream of the Site during recent sampling events from the July 2005 Fourth Quarter 2004 Report, but the other parameters do not exhibit this trend.

The concentrations of these parameters in the on-site pond are about the same as they were during the last 5 years and as they were in 1996, except that sodium may have increased slightly.

The groundwater appears to be similar in the most recent sampling events from 2004 to what it was in 1996 for the parameters shown in the 2000 5 year-review. There are a few parameters that appear to have increased, but generally when they were compared to the pre-1996 data there were no increases over previous, higher concentrations.

V. Progress since the Last Five-Year Review

The remedy for the Site remains protective of human health and the environment. The cap appears to be effective at containing contaminants through preventing infiltration of rainwater and preventing direct contact. Contaminants remain confined to the Site and do not appear to be impacting the groundwater. To U.S. EPA's knowledge, institutional controls at the landfill were put in place.

Institutional Controls consist of deed restrictions, such as installation of drinking water wells, for the property that constituted the original facility to protect the constructed elements of the remedy and prevention of the future use of groundwater from the shallow aquifer on the Site as well as deed restrictions that prevented installation of wells in the shallow aquifer and limited the

installation of wells in the lower aquifer. As some of the property has been transferred to a new owner and the restrictions have not been recently evaluated, U.S. EPA has requested that the institutional controls be evaluated by the PRP Group and the City of Marion. They are to provide an institutional controls investigation report during October 2005. U.S. EPA will review that report and its conclusions to determine whether previously instituted institutional controls remain valid, effective, and help ensure the long-term protectiveness of the remedial action.

VI. Five Year Review Process

This Marion Bragg Dump Site five-year review was prepared by David Linnear, U.S. EPA Remedial Project Manager. The five-year review consisted of a Site inspection and review of relevant documents. The final report will be available in the Site information repository for public view. Public notice of the five-year review was made August 1, 2005 in the Marion Chronicle Tribune by Janet Pope, U.S. EPA Coordinator to allow for community input.

VII. Five Year Review Findings

A. Site Inspections

The site inspection at the Site was conducted in August 2005 by the U.S. EPA. The purpose of the inspection was to assess the protectiveness of the remedy and verify institutional controls.

No significant issues were identified during the various inspections at any time regarding the cap and groundwater, nor issues related to institutional controls. Institutional controls in place were implemented, such as fencing and signage, and no activities were observed that would have violated the institutional controls.

The Site is primarily a low, grassy hill with a pond in the center. The cap and the Site in general appear in good condition. Over time the grass over the cap has developed into thick cover with few bare spots and provides good vegetative cover that protects against erosion. Monitoring wells appear in good condition. No staining was noted along the river bank as noted in past site visits. Site fencing appears in good condition. Rip-rap, which was a problem in the past, appeared in good shape.

B. Risk Information Review

Review of the Site reports demonstrates that the remedy remains protective of public health and the environment. The purpose of the reviews was two-fold: (1) to confirm that the remedy as spelled out in the ROD for OU 1 and/or remedial design remains effective at protecting human health and the environment (e.g., the remedy is operating and functioning as designed, institutional controls are in place and are protective), and (2) to evaluate whether original clean-up levels remain protective of human health and the environment. Applicable or relevant and appropriate requirements (ARARs) and To Be Considered (TBCs) requirements are key elements

in fulfilling these two purposes.

C. Data Review

Ground water monitoring has been performed at the Site to determine the trend of groundwater contaminants at the Site. Groundwater on-site and downgradient of the Site does not pose a threat.

Some sampling events, locations and, parameters, were reduced on October 17, 2003 by the U.S. EPA based on unchanging or improving analytical results and cost reduction efficiency. Monitoring has been reduced to the following locations: for groundwater, MB-1, MB-2, MB-3, MB-5, MB-6, MB-7, MB-8, MB-9, and MB-10, and for surface water, PW-1, SW-1, SW-5, and SW-6.

The annual sampling program requires sampling of on-site monitoring wells, the on-site pond, the Mississinewa River, and Lugar Creek. Samples were analyzed for TCL VOCs and SVOCs, and TAL metals (except cyanide). Project specific indicator parameters are TSS, ammonia-nitrogen, COD, and chlorides at all monitoring wells and surface water locations. Field parameters (temperature, pH, specific conductance, and dissolved oxygen) were collected at each of the stated sampling locations (Figures 1, 2, and 3). Analysis for these parameters has been on-going since the 1997 ROD. Below is a summary of the results found in the annual reports.

- Interpreted groundwater flow directions remain unchanged.
- Water levels in wells, ponds, and rivers continue to follow seasonal trends.
- Calculated concentrations of un-ionized ammonia exceeded the chronic aquatic criteria (CAC) at locations, MB-2, MB-3, MB-5, MB-6, MB-7, and MB-8. However, after applying the river background (mixing) calculation, the concentrations were evaluated as being below the CAC.
- TCL VOC, trichloroethene, was detected at location MB-1 at a concentration that exceeds the drinking water MCL. After recalculating with predetermined ROD modeling to reflect more realistic existing on-site conditions, the concentrations were evaluated as being below these criteria.
- TAL metals (dissolved), i.e. arsenic and iron were detected at locations, MB-1, MB-2, MB-3, MB-5, MB-6, MB-7, MB-8 and MB-9 at concentrations which exceeded the appropriate water quality criteria. After recalculating with predetermined ROD modeling to reflect more realistic existing on-site conditions, the concentrations were evaluated as being below these criteria.
- The data validator committed some errors in sampling procedures, sample documentation and the data validation report that were addressed by the PRPs and will remain consistent with the QAPP.

VIII. Technical Assessment

The following questions address the issue of protection of human health and the environment by the remedy at the Marion Bragg Dump Site.

Question A: Is the remedy functioning as intended by the decision document?

The review of documents, risk assumptions, and the results of the site inspection indicate that the remedy is functioning as intended by the ROD for OU 1. The remedy has achieved the remedial objectives to minimize the migration of contaminants to groundwater and surface waters and prevent direct contact with, or ingestion of, contaminants in soil.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

There have been no changes in the physical condition of the Site that would affect the protectiveness of the remedy.

Changes in Standards and To Be Considered: Neither federal MCLs nor State ground water standards for Site-related contaminants have changed since the ROD for OU 1. All other regulations at the Site remain unchanged.

Changes in Exposure Pathways: There have been no new exposure pathways discovered at the Site.

Changes in Toxicity and Other Contaminant Characteristics: There have been no changes to toxicity and other factors for contaminants of concern.

Changes in Risk Assessment Methodologies: There have been no additions or changes in risk assessment methodologies used at the Site since the ROD which affect the protectiveness of the remedy.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other events have affected the protectiveness of the remedy except that there has not been a recent review of the institutional controls to determine whether they remain in place and are protective.

Technical Assessment Summary

According to data reviewed and the site inspection, the remedy is functioning as intended by the ROD for OU 1. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. Clean-up standards for ground water contamination cited in the ROD for OU 1 have been met.

IX. Issues

Waste remains in place on the Site, the NCP requires U.S. EPA to conduct Five-Year Review of that site when state groundwater standards have not been met. Therefore, the Site may need continual evaluations of the groundwater every five years.

Based on information provided to U.S. EPA, the institutional controls were put in place. However, the PRP Group and the City of Marion will be supplying an institutional controls investigation report to U.S. EPA during October 2005 to confirm that the institutional controls remain in place and are effective.

While conducting a site visit during September 2005, 55 gallon drums were observed near the Site entrance. PRPs have been requested to remove and dispose of those drums and report in accordance with Site plans.

X. Recommendations and Follow-Up Actions

Issue	Recommendations/ Follow-up Actions	Party Responsible	Oversight Agency	Milestone	Current / Future Protectiveness? (Y/N)
Continue evaluation of ground water	Continue to monitor for exceedances;	PRP Group	State/EPA	Spring 2006	Y /Y
Continue monitoring pond, river and creek	Continue to monitor for exceedances;	PRP Group	State/EPA	Spring 2010	N / Y
Drums on Site	Remove drums	PRP Group	State/EPA	Spring 2006	N / Y
IC Report	PRP submit for review	PRP Group and City of Marion	State/EPA	Spring 2006	N / Y
Continue O&M.	Continue to monitor effectiveness of systems	PRP Group and City of Marion	State/EPA	Spring 2010	N / Y

XI. Protectiveness Statement

The remedy is protective of human health and the environment in the short-term. The exposure pathways that could result in unacceptable risks are being controlled and institutional controls were put into place to prevent exposure to, or the ingestion of, contaminated ground water or soil. Current data indicate that the plume remains on site and the remedy is functioning as required. In order for the remedy to be protective in the long-term, follow-up actions need to be taken to ensure that the required institutional controls remain in place and are effective.

XII. Next Review

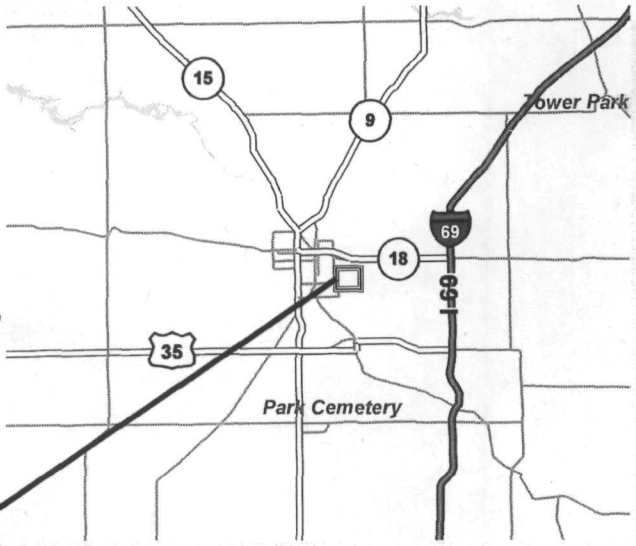
The next five-year review for the Marion Bragg Dump Site is required by September 2010.

FIGURES

Marion Bragg Dump Superfund Site

1) State

2) Grant County



3) Marion Bragg Dump

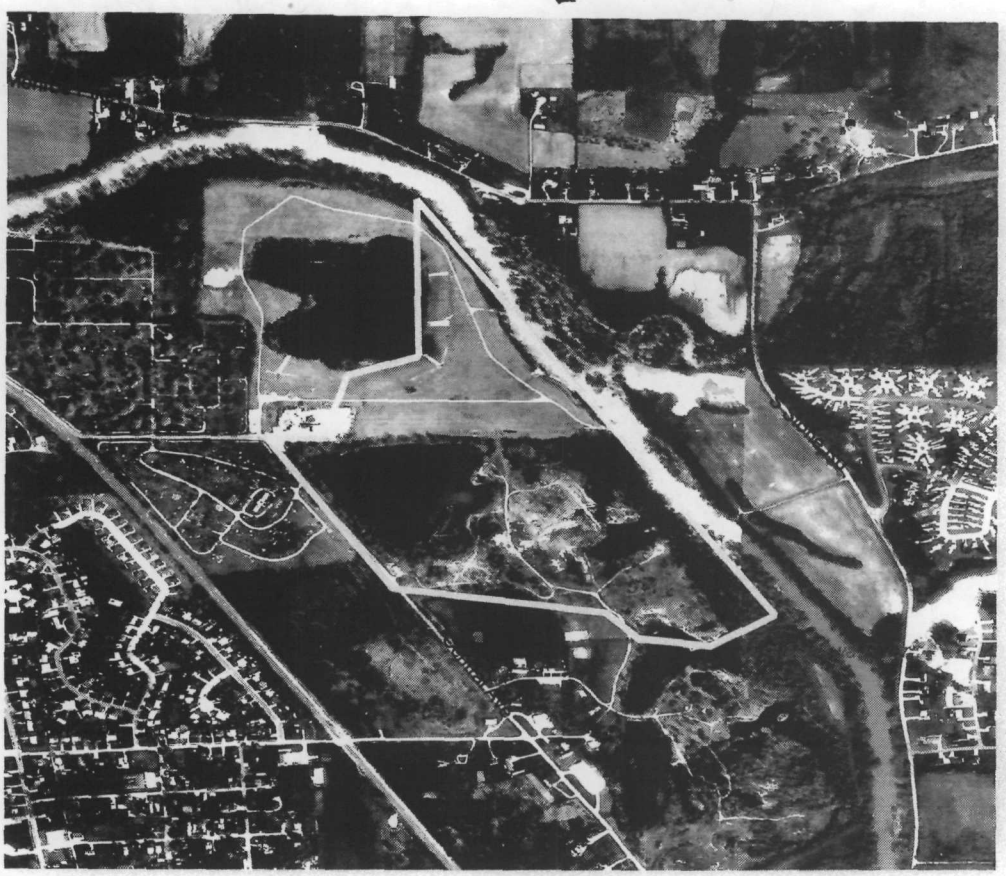


Figure 1

Plot created by Sarah Backhouse U.S. EPA Region 5 on 9/13/2005

GEOS
Groundwater Evaluation and Optimization System